

GOL'DSHTEYN, V. D., CAND MED SCI, "METABOLISM OF PYRIDOXINE AND NICOTINIC ACID IN PATIENTS WITH PULMONARY TUBERCULOSIS UNDER CHEMOTHERAPY." MOSCOW, 1964. (SECOND MOSCOW MED INST IM N. I. PIROGOV). (KL, 3-54, 231).

DOBROKHOTOVA, M.N., kand.med.nauk; MASSEN, R.I.; POLYAKOVA, S.G.; IOFFE,
R.A.; GOL'DSHTEYN, V.D. (Moskva)

Immediate results of combined chemotherapy with the use of cyclo-
serine. Kfir.med. no.3:130-136 '62. (MIRA 15:3)

1. Iz kafedry tuberkuleza (rav. - zasluzhennyy deyatel' nauki
prof. A.Ye. Rabukhin) TSentral'noye instituta usovershenstvovaniya
vrachev, TSentral'noy klinicheskoy bol'nitsy imeni Semashko
Ministerstva puty soobshcheniya (glavnyy vrach A.A Patsubayenko)
i bol'nitsy "Vyskiye gory" (glavnyy vrach V.G. Samochatov).
(CYCLOSERINE) (CHEMOTHERAPY)

GOL'DSHTEYN, V. D.

Disorders in the composition of the peripheral blood developing
as a result of the therapeutic use of phthivazide. Probl. gemat.
i perel. krovi no.4:29-32 '62. (MIRA 15:4)

1. Iz Moskovskoy tuberkuleznoy klinicheskoy bol'nitsy "Zakhar'ino"
(glavnyy vrach V. P. Petrik) i filiala kafedry tuberkuleza (Zav. -
prof. F. I. Levitin) Tsentral'nogo instituta usovershenstvovaniya
vrachey.

(PHTHIVAZIDE--TOXICOLOGY)
(BLOOD--DISEASES)

GOL'DSHTEYN, V.D.; MIRINOV, G.B. (Moskva)

Combination of tuberculosis of the lungs and actinomycosis.
Klin. med. 40 no.12:107-110 D '62. (MIRA 17:2)

1. Iz Moskovskoy gorodskoy klinicheskoy tuberkuleznoy
bol'nitsy No.3 "Zakhar'ino" (glavnyy vrach V.P. Petrik)
i filiala kafedry tuberkuleza (zav. - prof. F.I. Levitin)
TSentral'nogo instituta usovershenstvovaniya vrachey.

GOL'DSHEIN, V.D.

Development of pneumothorax as a result of therapeutic use
of pneumoperitoneum. Vrach. delo no.7:133-135 J1'63.

(MIRA 16:1C)

1. Moskovskaya gorodskaya tuberkuleznaya bol'nitsa "Zakhar'ino"
i filial kafedry tuberkuleza (zav. - prof. F.I.Levitin) Tsen-
tral'nogo instituta usovershenstvovaniya vrachev.

(PNEUMOTHORAX) (PNEUMOPERITONEUM, ARTIFICIAL)

LEVITIN, I.I., KODALOVICH, V.D., PROKHOROV, Ye.I., et al. 1967.

Innocent reactions in elderly persons with primary
tuberculosis. Trudy SNK (1967) 167. (Sov. 1969)

1. Katsiro sibirskaya Tsentral'naya i natsional'naya
voprosy zhizni i klinicheskaya polika. M. (1967), Moscow.

GOLICHTSEV, V.D.; MEL'NIKOV, G.B.

Combination of tuberculosis and primary lung cancer. Prudy
TSIU 63:102-108 '63. (MIA 1719)

1. Klinicheskaya bel'nitsa "Zachar'ino", Moskva i kafedra
tuberkulozna Tsentral'nogo instituta nauchnykh osnov
vrazheby.

GOL'DSHTEYN, V.D.; MIRINOV, G.B.

Diagnosis of primary lung cancer in tuberculous patients. Ter.
arkh. 35 no.7:106-108 J1'63 (MIRA 17:1)

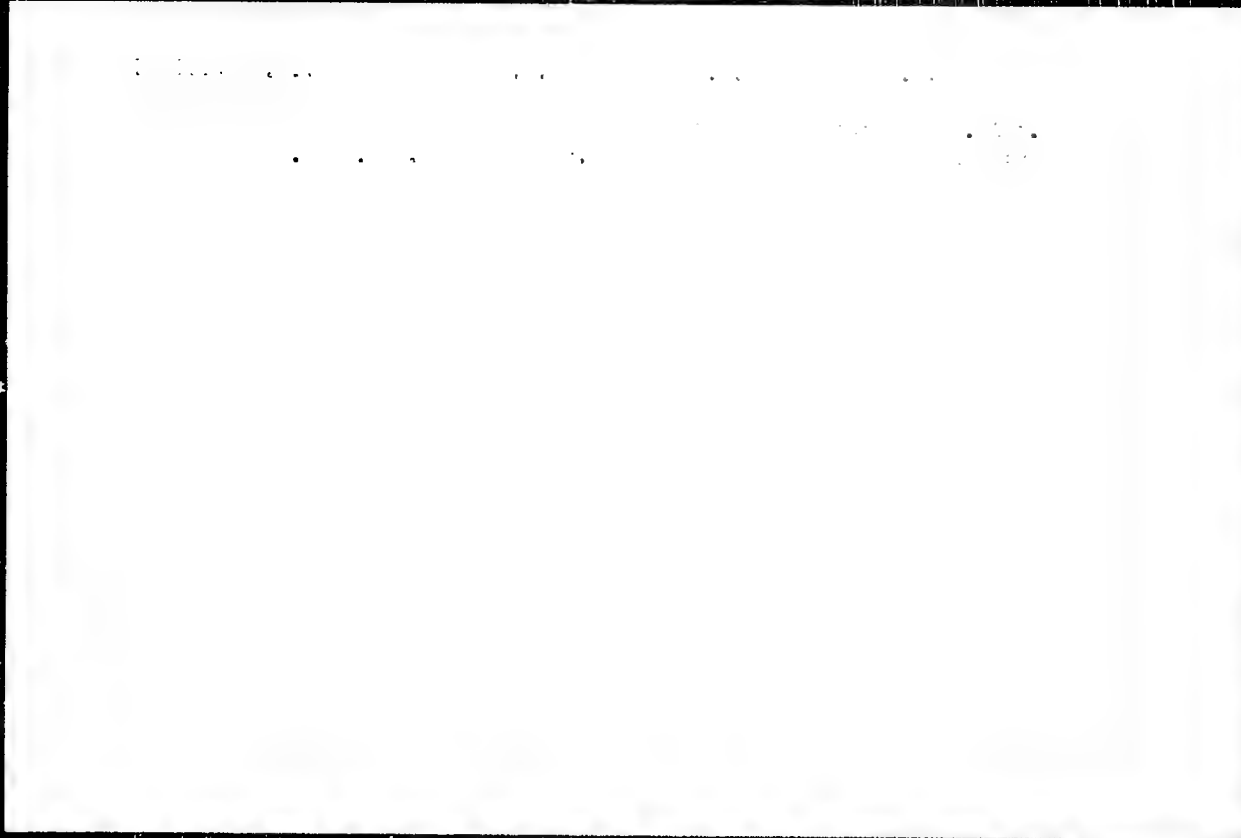
1. Iz Moskovskoy gorodskoy klinicheskoy tuberkuleznoy bol'nitsy
No.3 "Zakhar'ino" (glavnyy vrach V.P.Petrik, nauchnyy rukovodi-
tel' - prof. F.I. Levitin).

GOL'DSHTEYN, V.S.

Effect of the therapeutic use of ... on the metabolism
of pyridoxine and nicotinic acid in primary tuberculosis. Ark.
vop. lab. no. 469-75 1963. (Vint. 719)

"APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515710016-5



APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515710016-5"

LEVITIN, F.I.; GOLDSHTEYN, V.I.; KULICH, I.A.; PROKHOROV, Ye.I.; FRADKIN, V.I.;
CHAYSOVSKAYA, M.M.

Technic and evaluation of the results of tuberculin tests. Probl.
tub. no.7:9-16 '63. (MIRA 18:1)

1. Iz kafedry tub-erkleza trav. - rasluzhennyy deyatel' nauki (prof.
A.Ye. Babukhin) Tsentral'nogo instituta usovershenstvovaniya vrachey.

GOL'DSHTEYN, V.M., inzh.

Methods for calculating turntable ball bearings for excavators
and cranes. Stroi. i dor. mashinostr. 3 no.1:8-10 Ja '58.
(Excavating machinery) (Cranes, derricks, etc.) (MIRA 11:1)

GOL'DSHTEYN, V.M., inzh.

~~Analyzing~~ operating conditions of gears in rear axle balancers
of motor graders. Stroi. i dor. mashinostr. 3 no. 7:19-22 J1 '58.

(MIRA 11:8)

(Graders(Earthmoving machinery))

GOL'DSHTEYN, V.M., inzh.

Determining maximum stresses in motor graders. Stroim. dor.
mashinostr. 4 no.9:14-18 S '59. (MIRA 12:11)
(Graders (Earthmoving machinery))

GOL'DSHTEYN, V.M., inch.

Calculating the transmission gear ratio for graders. Stroitel'mashinostr. no.7:18-21 J1 '59. (MIR. 12:11)
(Graders (Earthmoving machinery))

GOL'DSHTEYN, V. K., Cand Tech Sci -- "Experimental and theoretical study of the autograder dynamics when designing construction lines." Mos, 1961. (Min of Higher and Sec Spec Ed RSFSR. Mos Automobile-Roads Inst) (KL, 3-61, 242)

- 217 -

GOL'DSHTEYN, M.N.; GOL'DSHTEYN, V.M.

Theory of the vibratory sinking of untapered piles. Vop.
geotekh. no.6:3-19 '63. (MIRA 17:9)

001.001.001

1. The first part of the document is a list of the names of the persons who were present at the meeting. The names are listed in alphabetical order. The names are: [illegible]

GOREBATOV, S.P. (Dnepropetrovsk); GOL'DSHTEYN, V.M. (Dnepropetrovsk)

Reliable covering for wire transducers used in testing pile shells.
Dokl. Akad. Nauk SSSR, 1964, vol. 199, no. 1, p. 104.
(MIRA 17:2)

SECRET, 1974.

There is a number of people in the state who are vi-
siting the office. One, for example, was a man, 1944-1945
(1944-1945)

GOLDSTEIN, M.M., hand. letter, talk

Performance of a central signal system. (handwritten)
no. 9:15:12 J '65.

MAR 1962. U.S. AIR FORCE, V.M., Bond, LeAnn, duck

1962. U.S. AIR FORCE, V.M., Bond, LeAnn, duck
(MIRA 18-10)

1962. U.S. AIR FORCE, V.M., Bond, LeAnn, duck
1962. U.S. AIR FORCE, V.M., Bond, LeAnn, duck

L 35829-66

ACC NR: AP6003749

(A)

SOURCE CODE: UR/0113/65/000/010/0023/
0026

AUTHORS: Marshak, S. F.; Gol'dshteyn, V. M. (Candidate of technical sciences) 26
B

ORG: VNIISTroydormash

TITLE: The stability of single-axle tractors in the turning position

SOURCE: Avtomobil'naya promyshlennost', no. 10, 1965, 23-26.

TOPIC TAGS: tractor, vector, motion stability, coordinate system,
vehicle engineering

ABSTRACT: The tilting of a trailer on level ground relative to a three-dimensional coordinate system is considered (see Fig. 1). The coordinate origin (point O) is at the center of the contact line of the wheels of the tractor. The absolute value of the angular velocity

$$\omega = \sqrt{\omega_y^2 + \omega_x^2 + \omega_z^2},$$

and the direction cosines $\cos \alpha = \frac{\omega_x}{\omega};$

$$\cos \beta = \frac{\omega_y}{\omega};$$

Card 1/3 $\cos \gamma = \frac{\omega_z}{\omega}.$

UDC: 629.114.2.001.5

ACC NR: A00037102

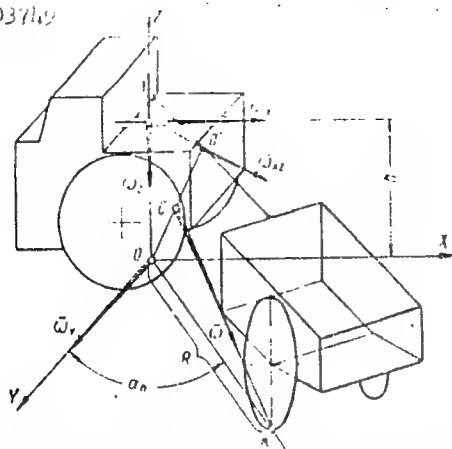


Fig. 1

The expression for the critical slope is found to be a function of six independent variables: the track, the displacement of the coupling from the axle of the tractor, the coordinates of the centers of gravity of the trailer and tractor, the ratio of the weights of the trailer and tractor, and the height of the overall center of gravity of the tractor with trailer. The critical angles for tipping forward and backward, respectively, are:

$$\beta_{\text{crit}} = \arctg \frac{d_n(1-K_m) - d_m K_m}{H_c}, \quad \beta'_{\text{crit}} = \arctg \frac{d'_n(1-K_m) + d'_m K_m}{H_c}$$

Card 1/3

ACC NR: A

Orig. art. list: - photograph, diagram, sketch, and all formulas.

SUB CODE: 13/ SUBM DATE: none/ ORIG REF: 003

Card 3/3

GREBENSHCHIKOV, V.S.; GOL'DSHTEYN, V.S.; KOZLOVSKIY, Yu.I.

Cold cutting of small-module gear wheels. Stroi. i dor. mashinostr.
3 no.1:35-38 Ja '58. (MIRA 11:1)

(Gear-cutting machines)

KOCHNOV, V. Ye. (Chelyabinsk); GOL'DSHTEYN, V. Ya. (Chelyabinsk)

Kinetics of recrystallization of electrical steel during its
annealing. Izv. AN SSSR. Otd. tekhn. nauk. Met. i topl. no.6:
61-66 N-D '62. (MIRA 16:1)

(Steel—Heat treatment)
(Crystallization)

GERSHMAN, R.B., inzh.; GELIKOV, A.M., inzh.; GOL'DSHTEYN, V.Ya., inzh.;
GOL'DSHTEYN, V.Ya., inzh.; VASIL'YEVA, S.M.

Effect of a bend in electrical steel on its magnetic
properties. Elektrichestvo no.11:62-63 N '63.

(MIRA 16:21)

1. Nauchno-issledovatel'skiy institut metallurgii,
Chelyabinsk.

KOCHNOV, V.Ye.; GOL'DSHTEYN, V.Ya.

Recrystallization stages in transformer steel. Fiz. met. i
metalloved. 15 no.5:685-689 My '63. (MIRA 16:8)

1. Nauchno-issledovatel'skiy institut metallurgii, Chelyabinsk.
(Steel--Metallography) (Crystallization)

1975 Dec, 14. . .

[illegible]

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

Monthly 1951 12/15/51 1951 12/15/51, 1951 12/15/51, 1951 12/15/51, 1951 12/15/51.

8 (3)

SOV/112-57-5-1021:

Translation from: Referativnyy zhurnal. Elektrotehnika. 1957. Nr 5, p 92 (USSR)

AUTHOR: Gol'dshteyn, Ya. M.

TITLE: Speeding-up the Process of Drying the Transformer Core-and-Coil Assembly (Suggestion by G. G. Lisin) (Uskoreniye protsessy sushki vyyemnoy chasti transformatorov /predlozheniye G. G. Lisina/)

PERIODICAL: Sb. rats. predlozh. M-vo elektrotekhn. prom-sti SSSR, 1956, Nr 1 (59), p 19

ABSTRACT: Transformer core-and-coil assembly drying by the induction-loss method in its own tank, without application of vacuum, can be speeded up by blowing hot air directed from bottom to top.

A.G.K.

Card 1/1

8 (3)

SOV/112-57-5-10213

Translation from: Referativnyy zhurnal. Elektrotehnika, 1957, Nr 5, p 92 (USSR)

AUTHOR: Gol'dshteyn, Ya. M.

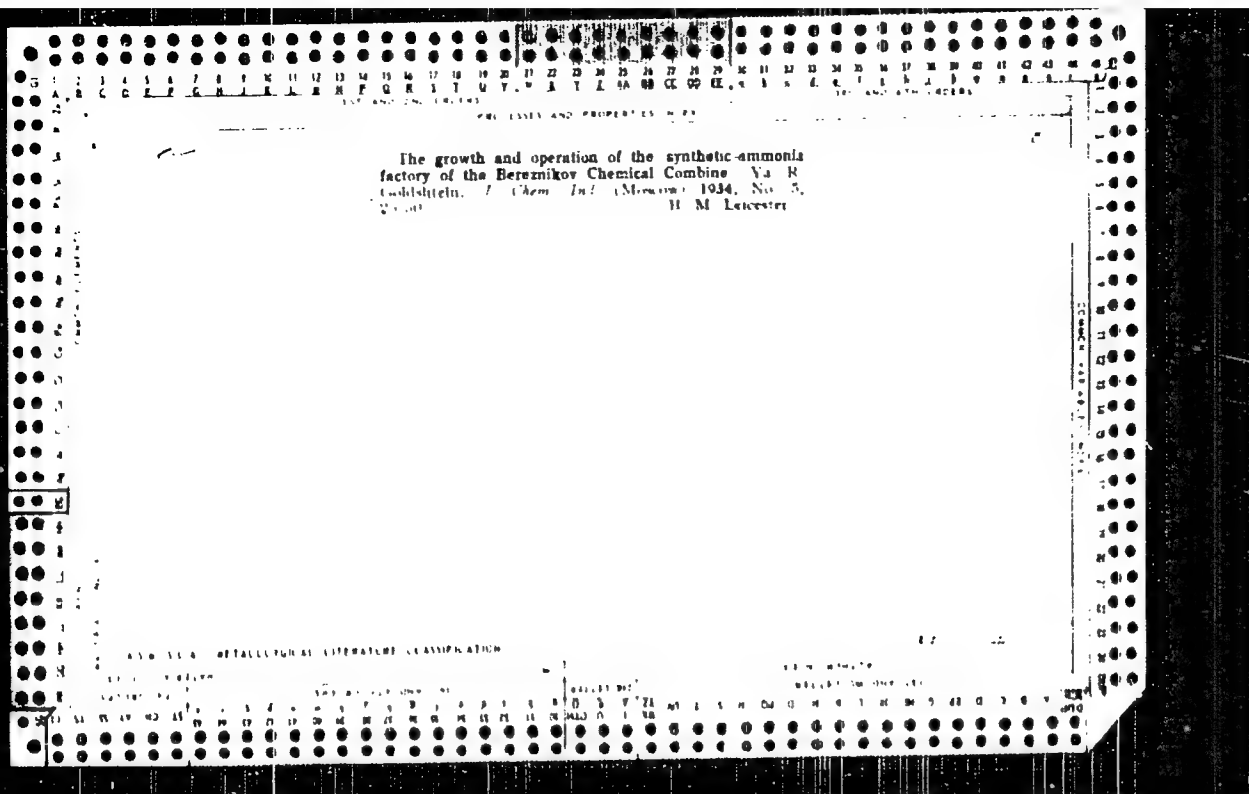
TITLE: A Method to Check the Equality of Turn Numbers in Wound Transformer Coils Connected in Several Parallel Groups (Suggestion by S. A. Farbman)
(Sposob kontrolya ravenstva chisla vitkov v namotannykh katushkakh transformatora, vklyuchayemykh v neskol'ko parallel'nykh grupp /predlozheniye S. A. Farbmana/)

PERIODICAL: Sb. rats. prediozh. M-vo elektrotekh. pro-sti SSSR, 1956, Nr 1 (59), pp 19-20

ABSTRACT: It is suggested that a short-circuit experiment, as a part of transformer test (with the core-and-coil assembly lifted from the tank), be made with 50-100% of the rated current for 30-45 minutes. If turn numbers in parallel circuits are unequal, the coils will heat unequally, which can be detected by hand.

A.G.K.

Card 1/1



(Handwritten)

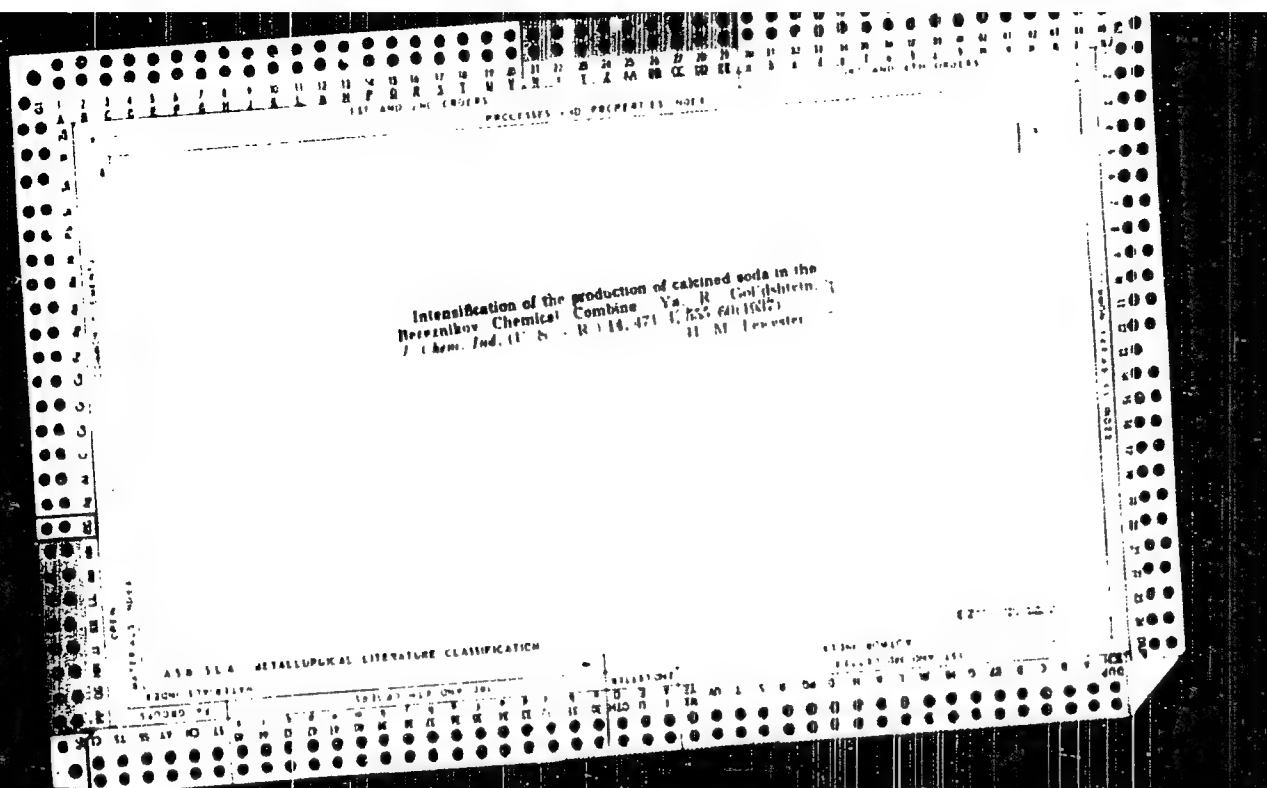
PURIFYING SALT SOLUTIONS FOR THE MANUFACTURE OF SODA.
V.A. R. GOL'DSHTEIN. Russ. 51,809, September 30, 1937.

Ca and Mg salts are removed by treatment first with NaOH in an amt. insufficient to ppt. all the Mg, and addn. of the remaining amt. of NaOH in a second stage together with alkali carbonate to ppt. Ca

(Handwritten)

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION

Film No. 1000
Serial No. 1000
Class No. 1000



117 AND 120 GROUPS

PROCESSES AND PROPERTIES INDEX

120 AND 121 GROUPS

18

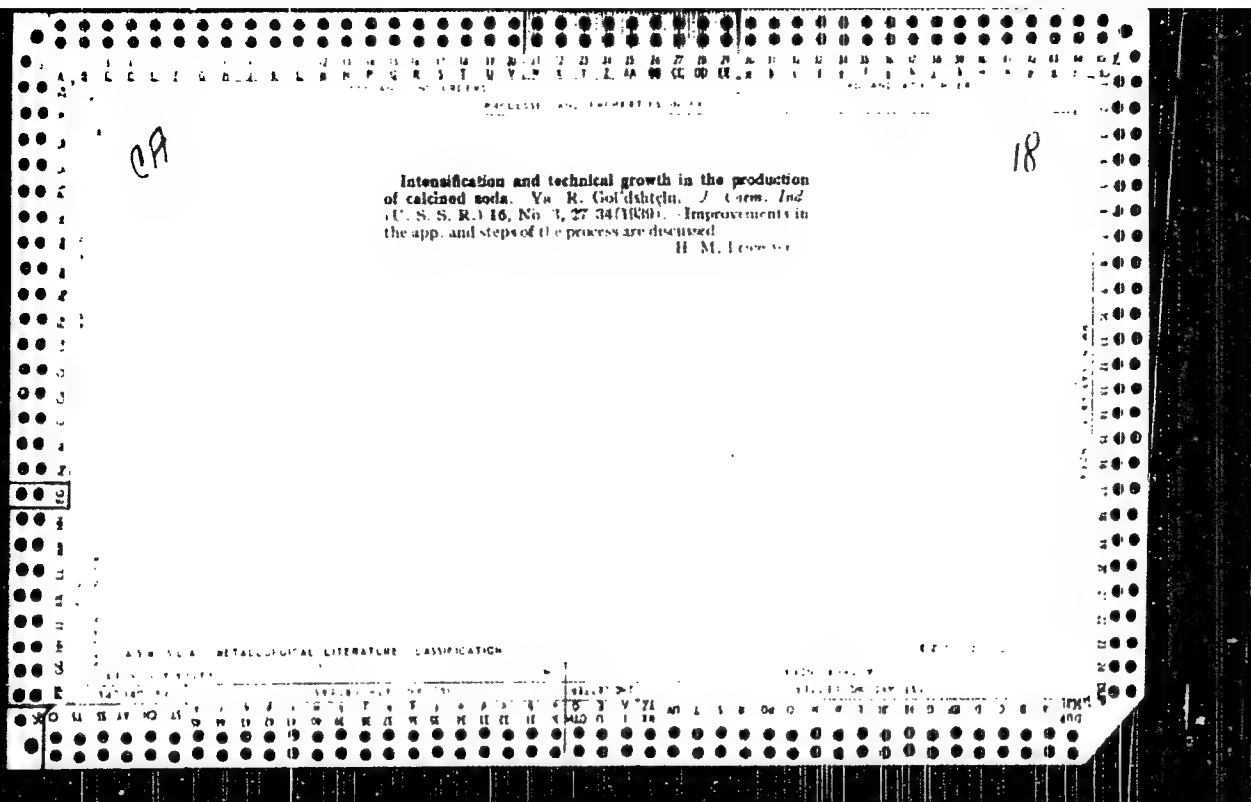
Establishing control and the gas calculations in soda production. Ya. R. Givdshfel'm. *J. Chem. Ind. (U. S. S. R.)* 16, No. 2, 21-2 (1949). Some remarks on the paper of Yu. P. Kotelevskii (*ibid.*, 1, 33, 3279). G. I. Mikulin. *Ibid.* 22, 3. Technical with K. H. M. Leicester.

ASAC-55A DETAILING LITERATURE CLASSIFICATION

SEARCH SYMBOLISM

117 AND 120 GROUPS

120 AND 121 GROUPS



PROCESSES AND PROPERTIES INDEX																									
<p>Reactions in suspension. Ya. R. Gol'dshteyn. <i>Zhur Priklad. Khim.</i> (J. Applied Chem.) 20, 963-62 (1947). Description of existing processes of water purification, classified crystn., and catalytic reactions using finely divided solids maintained in suspension. Possibilities of extension of the principle to a wide variety of processes are pointed out. N. Thon</p>																									
<p>ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																									

24

18

Theory and practice of the ammonia soda process. I. Theory of the process of carbonation of the ammoniacal solution. Ya. R. Gol'dshchik. *Zhur. Priklad. Khim.* [J. Applied Chem.] 21, 82-100 (1948). In the reaction $\text{NaCl} + \text{NH}_4\text{HCO}_3 \rightarrow \text{NaHCO}_3 + \text{NH}_4\text{Cl}$, the acid nature of NH_4Cl requires that a certain amt. of $(\text{NH}_4)_2\text{CO}_3$ be present in order to neutralize the acidification. This is confirmed by the experience that complete bicarbonation cannot be attained, 30-40% of the total alk. remaining in the form of carbonates. The process is further complicated by the formation of Na_2CO_3 , which must be accompanied by a parallel increase of the amt. of free NH_3 as a result of hydrolysis of $(\text{NH}_4)_2\text{CO}_3$. The increase of the pH resulting from the pptn. of NaHCO_3 must be compensated by an increase of the amt. of carbonates. The course of the carbonation process is completely detd. by the curve of the pH of the system plotted against the degree of carbonation. In particular, the curve representing the variation of the rate of absorption of CO_2 with progressing carbonation is an exact replica of the curve of the variation of the pH. The kinetics of the process are represented by a law, $\text{rate} = k[\text{OH}^-] \sqrt{p}$, where p = total pressure of the gas, $c = \text{CO}_2$, concn. therein. The rate-detr. step is the slow hydration $\text{CO}_2 + \text{H}_2\text{O} \rightarrow \text{H}_2\text{CO}_3$. Intermediate formation of the carbamate $\text{NH}_4\text{CO}_2\text{NH}_4$

is possible, inasmuch as it can take place by direct union of CO_2 and NH_3 without preliminary hydration of the CO_2 . However, in the subsequent decompo. of the carbamate, the resulting CO_2 must necessarily undergo hydration to H_2CO_3 . This step, consequently, remains the rate-detr. step even in the carbamate mechanism. The reaction between CO_2 and NH_3 proceeds more intensely in the vapor phase than in the soln.; the vapor-phase reaction, with subsequent soln. of the carbonates and carbonates formed, plays an important role in the process. The anomaly occurring in the middle zone of the carbonation process, and consisting in a temporary retardation of the decrease in, or even a temporary increase in, the rate, is due entirely to static properties of the soln. at that stage, as reflected by the pH curve, and not to dynamic factors, as assumed by N. Tern (C.A. 43, 3574h).

1. The first part of the document is a list of the names of the persons who were present at the meeting.

2. The second part of the document is a list of the names of the persons who were present at the meeting.

3. The third part of the document is a list of the names of the persons who were present at the meeting.

GOL'DSHTEYN, Ya., R.

Theory and practice of soda production. II. Kinetics of crystallization of sodium bicarbonate. J. Appl. Chem. U.S.S.R. 24, 931-45 '51 [Engl. translation]; Zhur. Priklad. Khim. 24, 817-31 '51. (MLRA 4:6)
(CA 47 no.21:11673 '53)

GOLDSHTEYN, Ya. R.

The theory and practice of the ammonia-soda process.
 III. Mechanism of the growth of sodium bicarbonate crystals. Ya. R. Goldshtein. *Zh. Prikl. Khim.* 24, 925-30 (1951). *Ch. C.A.* 47, 11873c. During the initial stage of growth of NaHCO_3 in lab. columns large-sized crystals can be obtained if the rate of carbonation of the solution does not exceed the established max. It is absolutely necessary for the crystals to begin before the crit. stage of carbonation at 110% is reached. When the established rate of carbonation is exceeded, formation of new nuclei of bicarbonate crystals results. The salt spils. in form of poly-cryst. agglomerates caused by initial attachment and subsequent growing together of individual crystals. The process of carbonation is governed by the rate of absorption of CO_2 which varies in individual zones of crystals inside the crystals. column.
 M. G. Holshteyn

I 24264-66 ENT(1)/EWA(h)

ACC NR: AR6005252

SOURCE CODE: UR/0058/65/000/009/H014/H014

AUTHOR: Gol'dshteyn, Yu. A.

TITLE: Concerning the signal to noise ratio at the output of a mutual correlation detector

SOURCE: Ref. zh. Fizika, Abs. 9Zh113

REF. SOURCE: Tr. Nauchno-tekhn. konferentsii Leningr. elektrotekhn. in-ta svyazi, vyp. 1, 1964, 77-81

TOPIC TAGS: signal to noise ratio, signal noise separation, correlated noise, signal reception

ABSTRACT: The signal/noise ratio is determined at the output of a mutually-correlated detector in the reception of noise-like signals. [Translation of abstract]

SUB CODE: 09

Card 1/1 *da*

GOL'DSHEYN, Yefrem Iosifovich, aspirant

Design of optimum ... ring chokes. Izv. vys. ucheb. zav.
elektromekh. 7 no. 42436-423 '64 (MIRA 17:7)

1. Kafedra elektricheskikh stantsiy Tomskogo politekhnicheskogo instituta.

GOL'DSHTEYN, Ye.I.

Selecting the geometry of standard ribbon cores for transformer
chokes. Standartizatsiia 28 no.8:31 33 Ag '64.

(MIRA 17-11)

GOL'DSHTEYN, Ya.Ye., kand.tekhn.nauk

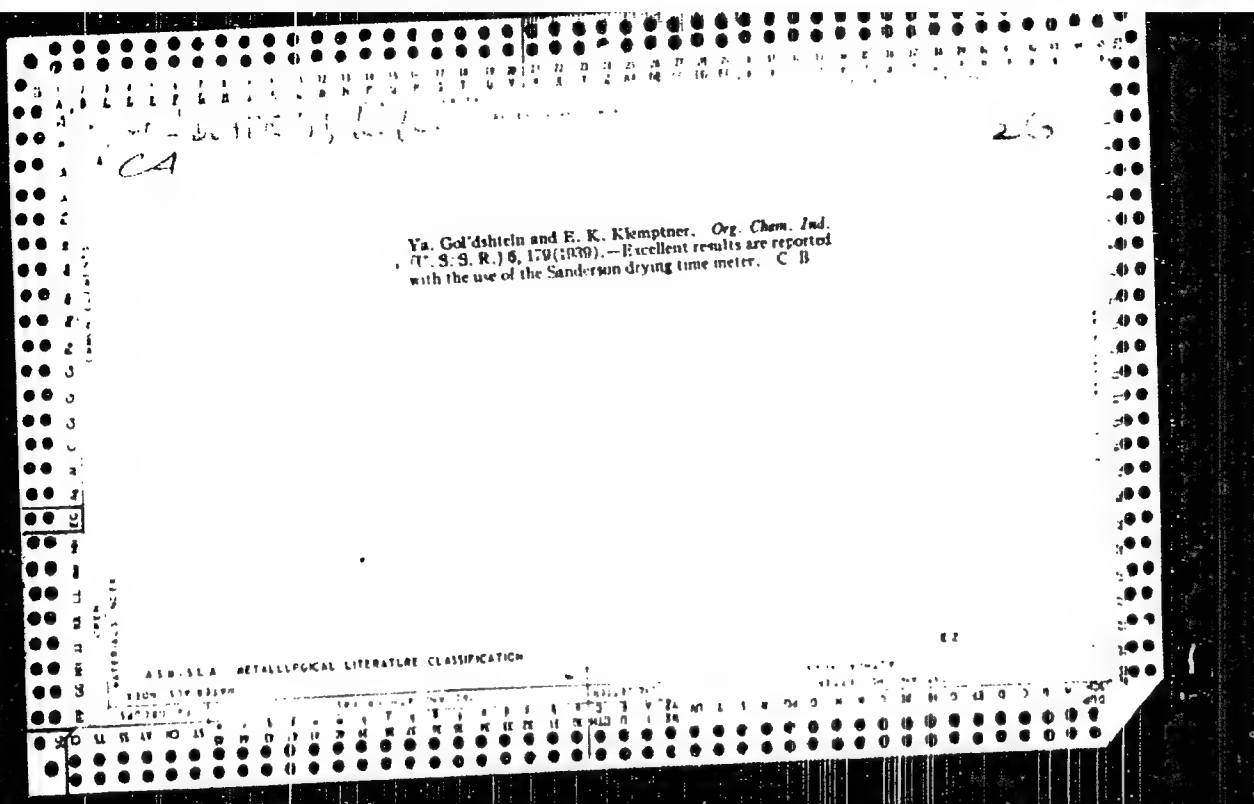
New economically alloyed carburizing steels with boron content.
Vest.mashinostr. 42 no.5:44-48 My '62. (MIRA 15:5)
(Boron steel)

Handwritten: 17

Handwritten: 3

Fundamental Questions in the Production of Steel Bearings with Bronze Coatings. Ya. E. Goldshteyn (Ussr. Min. *Met. Ind. Herald*, 1948, 18, (6), 3-25; *Chem. Zentr.*, 1939, 110, (11), 2571). [In Russian]. The best composition for lead bronze coatings on steel bearings is determined by the design, construction, and use of the machine for which they are intended. Lead bronzes recommended for tractor bearings are: (1) lead 10-15, nickel 1.5-2.5%, remainder copper; (2) lead 35-40, calcium 0.02, silicon 0.02, sulphur 0.02%, remainder copper. In the absence of nickel the lead content of the coating on crankshaft bearings can in most cases be reduced to 35-40%; the addition of sulphur, calcium, and lithium in amounts of 0.02-0.05% before casting is recommended to improve the fine structure and properties of the bronze. From the standpoint of manufacture and operation

a recommended coating for steel bearings used with carburized crankshafts in Diesel tractors is: lead 19-20, tin 2.75-3.5, nickel 5-6, zinc 1.5, phosphorus 0.10-0.12%, remainder copper. bronze coatings with a fine-grained structure have the best mechanical, corrosion-resistant and anti-friction properties; such a structure can be obtained with alloying elements such as nickel, vanadium, or silver, or by the combined addition of calcium, sulphur, and silicon. With pure binary alloys the production of a fine-grained structure is difficult since it requires a very high cooling rate after casting. An effective means of producing a uniform structure is by strongly superheating the bronze to a temperature of about 1225°-1250°



PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 357 - I

BOOK Call No.: TN672.V8

Author: GOL'DSHTEYN, YA. YE.

Full Title: THEORETICAL AND PRACTICAL PROBLEMS IN HIGH-FREQUENCY
CURRENT TEMPERING OF CAST IRON

Transliterated Title: Voprosy teorii i praktiki v vysokochastotnoy
zakalke chuguna

Publishing Data

Originating Agency: All-Union Scientific Engineering and Technical
Society of Machine Builders, Urals Branch

Publishing House: State Scientific and Technical Publishing House
of Machine Building Literature ("Mashgiz")

Date: 1950 No. pp.: 30 No. of copies: 3,000

Text Data

This is an article from the book: VSESOYUZNOYE NAUCHNOYE INZHENERNO-
TEKHNICHESKOYE OBSHCHESTVO MASHINOSTROITELEY. URAL'SKOYE OTDELENIYE,
THERMAL TREATMENT OF METALS - Symposium of Conference (Termicheskaya
obrabotka metallov, materialy konferentsii) (p.273-302), see AID 223-II

Coverage: The hardening of working surface of cast iron by nitration
with high frequency current and tempering at very low tem-
peratures (below freezing) are discussed. Work of other
investigators is reviewed and analysed together with the
author's own experimental results. The allowable velocity

1/2

Voprosy teorii i praktiki v vysokochastotnoy
zakalke chuguna

AID 357 - I

of heating and phase transformation in cast iron at super-fast heating are specified in relation to the velocity of carbon disintegration in austenite. The rates of heating used in the experiment vary from 10^0 to $5,000^0\text{C}$ per second.

The author's experiments and discussion are mainly related to the study of effects of various factors on hardness of cast-iron surface, depth of penetration, mechanical properties and wearing ability. Attention is also given to the effects of high frequency current and alloying elements on hardening resistance to breaking and wear. 23 charts, 3 microphotographs, 7 tables.

Purpose: For scientific workers

Facilities: None

No. of Russian and Slavic References: 24 Russian (1931-50)

Available: Library of Congress.

2/2

company, Inc.

1. The following is a list of the names of the persons who are

known to have been in contact with the

person named above.

2. The following is a list of the names of the persons who are

known to have been in contact with the person named above, and who are known to have been in contact with the person named above, and who are known to have been in contact with the person named above.

PROCESSES AND PROPERTIES INDEX																									
<p>810-E. Cast Crankshafts. (In Russian.) Ya. E. Gol'dshteyn, <i>Vestnik Mashinostroyeniya</i> (Bulletin of the Machine Construction Industry), v. 30, Feb. 1960, p. 10-18.</p> <p>Production of low-alloy cast iron crankshafts having high mechanical properties. Stabilization of the structure and reduction of cast and structural stresses may be improved by high-temperature annealing for 2 hr after mechanical working at 620° C. High mechanical properties of cast iron may be obtained either by reducing the total C and Si or by alloying with Mn (1.5 or 1.75%) and Ni (0.60 or 0.90%). (E25, J23, Q general, CI)</p>																									
<p>ASM-A5-A METALLURGICAL LITERATURE CLASSIFICATION</p>																									

GOLOS, V. A.

Cast Iron

Some properties of super-durable cast iron. Vest. mash. 21 No. 10, 1951.

9. Monthly List of Russian Accessions, Library of Congress, September, 1951, 1953, Unclassified.

GOL'DSHTEYN, Ya. Ye.

"Surface Tempering Pig Iron instead of its Chilling in the Mold," Vest. mash.,
31, No.12, 1951

GOL'DSHEYN, Ya. Ye., LEMYANOVICH, A. N.

"Problems Concerning the Durability of Large-Sized Gears Tempered with
High-Frequency Current," Vest. mash., 32, No.1, 1952

GOLDSHTEYN, Y. E.

MOSCOW

"Methods of increasing resistance to wear in cast iron products. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 20 p. (Izmen tekhnicheskim opytom) (55-32295)

TM475.N65

USSR/Engineering - Metal hardening

Card 1/1 Publ 128 - 12/26

Authors : Gol'dshteyn, Ya. E.

Title : The effect of hardening with high-frequency current heating on the strength
 of crude iron components

Periodical : Vest. mash. 2, 55-62, Feb 1954

Abstract : The casehardening of crude iron components with high-frequency current
 heating is described, and technical data is given on methods of heating,
 mechanical properties and the chemical composition of crude iron. Ten
 USSR references (1941-1952). Graphs; illustrations; tables; diagrams;
 drawings.

Institution :

Submitted :

Evaluation B-80261, 15 Nov 74

-5(3)

PHASE I BOOK EXPLOITATION

SOV/1703

Gol'dshteyn, Ya.Ye., Candidate of Technical Sciences, L.S. Lyakhovich,
Candidate of Technical Sciences, L.L. Pyatakova, Engineer, and
G.M. Trusenev, Engineer

Mikrolegirovaniye stali 45 dobavkoy bora (Boron Additives for Micro-
alloying of 45 Steel) Moscow, AN SSSR, 1956. 13 p. (Series: In-
formatsiya o nauchno-issledovatel'skikh rabotakh. Tema 1,
no.I-56-217) 870 copies printed.

Sponsoring Agencies: USSR. Gosudarstvennyy komitet po novoy tekhnike,
and Akademiya nauk SSSR. Institut nauchnoy i tekhnicheskoy in-
formatsii. Filial.

Exec. Ed.: A.I. Okuneva, Engineer; Ed.: L.M. Gopman, Engineer;
Tech. Ed.: V.A. Ponomarev.

PURPOSE: This book is intended for scientists and engineers working
in the field of metallurgy.

Card 1/2

Boron Additives for Microalloying (Cont.)

SOV/1703

COVERAGE: The booklet gives the results of an investigation of the properties of boron-containing 45R steel developed by the Central Laboratory of the Chelyabinsk Tractor Plant in cooperation with the Department of Metallurgy of the Chelyabinsk Polytechnical Institute. At present, this steel finds wide application in the manufacture of critical parts of S-80 tractors. Active participation in the investigations was taken by TsNIIChERMET (Central Scientific Research Institute of Ferrous Metallurgy), and this organization was responsible for introducing 45R steel to industry. There are 5 references, of which 3 are Soviet and 2 English.

TABLE OF CONTENTS: None given. This book is divided into the five following sections:

(1) Composition of the Steel	4
(2) Hardenability	5
(3) Mechanical Properties	8
(4) Characteristics of Quenching Crankshafts of 45R Steel by Means of High Frequency	11
(5) Conclusion	14

AVAILABLE: Library of Congress

Card 2/2

GO/ad
6-18-59

REDACTED, N. Y.

GOL'DSHTEYN, Yakov Yefimovich; GORBUL'SKIY, Il'ya Yakovlevich; PYATAKOVA,
Lyudmila Leonidovna; KUDRYAVTSEV, I.V., doktor tekhn.nauk. retsenzent;
BEZUKLADNIKOV, M.A., inzh., red.; DUGINA, N.A., tekhn.red.

[Increasing the wear of tractor parts] Povyshenie dolgovechnosti
traktornykh detalei. Moskva, Gos.nauchno-tekhn.izd-vo mashino-
stroit.lit-ry, 1956. 225 p. (MIRA 11:1)

(Tractors--Maintenance and repair)

GOLDSHTEYN, Ya Ye.

Boron-containing cast carbon steels. Ya. E. Goldshtein, L. E. Pyatkovskiy, and O. D. Anisimov. *Metallurgiya* 24, No. 7, 22-7 (1985). 4 refs. in Russian. B to C 0.31-0.39%, Si 0.40-0.50%, Mn 0.58-0.88%, C 0.00-0.25%, Ni 0.12-0.21% did not improve the low ductility properties of this steel in the as-cast or heat-treated state.

J. D. Gal

PHASE I BOOK EXPLOITATION

382

Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Sverdlovskoye
otdeleniye

Povysheniye kachestva i ekonomichnosti mashin (Increasing the Quality and Efficiency
of Machinery), Moscow, Mashgiz, 1957. 626 p. 5,000 copies printed.

Additional Sponsoring Agency: Ural'skiy dom tekhniki.

Eds.: Pal'mov, Ye. V., Doctor of Technical Sciences, Sokolovskiy, V. I., Candidate
of Technical Sciences; Reviewers: Bogachev, I. N., Doctor of Technical Sciences,
Gorshkov, A. A., Doctor of Technical Sciences, Zhukov, P. A., Candidate of
Economic Sciences; Tech. Ed.: Sarafannikova, G. A.; Managing Ed. (Ural-Siberian
Division of Mashgiz): Sustavov, M. I., Engineer.

PURPOSE: The book is intended for engineering and technical personnel.

COVERAGE: The book generalizes and synthesizes experience accumulated by the
Ural plants and to some extent that of the Siberian plants in improving the
technical and economic features of manufactured machines and in improving their
quality. Data are also presented on attempts to lower the cost and to increase
the quality of machines during the designing and production stages. The author

Card 1/15

882

Increasing the Quality (Cont.)

describes the shortening of the production cycle, reducing weight and dimensions along with improvement of operational qualities, increase in durability, and finally improvements in the external appearance of machines. There are 93 references of which 95 are Soviet, 2 German, and 1 English.

TABLE OF CONTENTS:

Foreword	9
Ways of Increasing the Quality and Economic Efficiency of Machines (Pal'mov, Ye. V., Doctor of Technical Sciences)	11
Ch. I. Present Trends in Machine Design	30
1. Improvements in the Operational Features of New Machines (Berenov, D. I., Engineer)	32
Choice of plan for a new machine	34
Selection of a drive	41
Mechanization and automation	43
Choice of materials and allowable stresses	45
Life of the machine	

Card 2/15

882

Increasing the Quality (Cont.)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 2. Automation and Mechanization in Modern Machines (Petukhov, P. A.,
Doctor of Technical Sciences) | 55 |
| Elements of automation of work and control | 57 |
| Examples of automation devices | 58 |
| Automatic regulation | 52 |
| Tools of automation | 56 |
| Mechanical production lines | 57 |
| 3. Introduction of Durable Materials Into Production (Gol'dshteyn,
Ya. Ye., Candidate of Technical Sciences) | 64 |
| New microalloyed steels | 64 |
| Increasing the quality of high-grade pig iron | 72 |
| Increasing the plasticity and viscosity of steel | 74 |
| Effect of bismuth on the wear-resistance of pig iron | 77 |
| 4. Effect of Mechanical Working on the Quality of Parts (Kuklin, L. G.,
Candidate of Technical Sciences) | 82 |
| Roughness of the surface layer | 83 |
| Cold hammering of the surface layer | 86 |
| Residual stresses in the surface layer | 91 |
| 5. Use of Combined Designs (Mikhaylov, G. P., Doctor of Technical
Sciences; Sergachev, M. P., Engineer; and Grigor'yev, L. N., Engineer) | 97 |
| Combining different materials | 98 |
| Combining technological processes | 100 |

Card 3/15

382

Increasing the Quality (Cont.)

Segmentizing structures	101
Combining materials and technological processes	105
6. Examples Showing the Effect of Technological Processes on the Quality and Economic Efficiency of Machines (Zameshayev, V. S., Engineer)	107
Vacuum casting of steel and the quality of forgings	107
Induction hardening of parts	116
Chemical hardening of molds and cores	123
7. External Finishing of Machines and Quality Control (Kozlov, K. G., Engineer)	132
Effect of design on the external appearance of a machine	133
External appearance of cast parts and metal structures	137
Mechanical finishing and assembly of parts	141
Finishing and storing parts	142
Quality control of machines	145
Technological discipline and quality control	147
Experimental parts and testing of machines	148

Card 4/15

882

Increasing the Quality (Cont.)

8. Safety Engineering Requirements (Makurin, P. I., Candidate of Technical Sciences)	151
Safety engineering for lifting and conveying equipment	153
Safety engineering in building excavators	154
Increasing work safety on metal-cutting machine tools	156
Safety devices for press-forging equipment	157
Safety engineering applied to other machine designs	157
Basic requirements for designers	159
Ch. II. Basic Data Revealing Economic Effectiveness of Machines and Equipment	163
1. Economic Effectiveness of New Designs (Smirnitskiy, Ye. N., Candidate of Economic Sciences)	165
Cost of new designs	164
Effectiveness of a new design in operation	165
Capital expenditures	165
Supplementary indicators of economic effectiveness	166
Ways of increasing the economic effectiveness of machines	168
2. Economic Effectiveness of Improved Technological Processes (Bauman, N. Ya., Engineer and Ganshtak, V. I., Candidate of Economic Sciences)	176
Technology and economics	176
Economic analysis of technological methods	179

Card 5/15

882

Increasing the Quality (Cont.)

Using flow methods of production	246
Complex mechanization and automation of production processes	247
Organizational trends in reducing the production cycle	249
Ch. III. Preparation of Basic Data for Designing Machines	253
1. Determining Strains and Stresses in Parts of Operating Machines (Sokolovskiy, V. I., Candidate of Technical Sciences)	253
Determining strains and stresses in a sheet rolling mill	255
Experimental investigation of a pipe-rolling mill	257
Determining residual and initial stresses	264
2. Experimental Determination of Trajectories of Moving Machine Parts (Shabashov, A. P., Candidate of Technical Sciences and Kozhemyakin, A. S., Engineer)	266
Determining trajectories of a scraper bucket's tooth	266
Determining strains in a dragline	272
3. Some Results of Tensometric Studies (Kazak, S. A., Candidate of Technical Sciences)	273
Possibilities for improving charging machines	274
Strains and stresses in parts of a shaft hoist	276
Modernization of parts and assemblies of crane mechanisms	277
Exposing causes of breakdowns in various machines	281

Card 7/15

382

Increasing the Quality (Cont.)

2. Rational Kinds of Shaped Rolled Metal (Kouba, Yu. F., Engineer)
 - Rational form of rolled metal profiles
 - Improvement in the assortment of rolled metal
3. Use of Plastics in Machinery Manufacturing (Bushmanov, K. N., Engineer)
 - Advantages of plastics
 - Examples showing the use of plastics in new machines
4. Increase of Machine Parameters With a Simultaneous Decrease of Weight and Size (Neyman, Z. B., Engineer)
 - Increase of speed and power of machines
 - Modernization of design to reduce weight
 - Unification of assemblies and parts
5. Widening Possibilities for the Use of Stamping in Manufacturing Machine Parts (Garago, D. A., Candidate of Technical Sciences)
 - Stamping of small and medium-size forgings
 - Stamping of large forgings
 - Waste reduction in stamping and decreasing the extent of mechanical working
 - Use of rolling and other progressive methods
6. Chill Casting and Economy of Machines (Chernobayev, N. Ye., Engineer)
 - Present trends in chill casting

Card 9/15

332

Increasing the Quality (Cont.)

- | | |
|------------------------------------------------------------------------------------------------|-----|
| Improving the design of the vane apparatus | 430 |
| Improving the thermal system | 431 |
| Design features of new turbines | 432 |
| Unification of assemblies and parts | 433 |
| Automation and remote control | 434 |
| 5. Modernization of Designs in Railroad Car Manufacturing (Lorentso, D. I., Engineer) | 435 |
| Axle bearings of new design | 436 |
| Universal freight car | 437 |
| New automatic coupling | 438 |
| Reducing the weight of freight cars | 439 |
| Use of aluminum in the construction elements of new cars | 440 |
| More efficient designs | 441 |
| 6. Mechanization and Automation of Rolling Mills (Khimich, G. L., Engineer) | 442 |
| Blooming and slabbing mills 1150 | 443 |
| Rail-structural mills | 444 |
| Heavy-sheet mills | 445 |
| 7. Use of Extremely High Liquid Pressures in New Hydraulic Presses (Mikhayev, V. A., Engineer) | 446 |
| New design presses | 447 |

Card 11/15

{82

Increasing the Quality (Cont.)

- Design of packings
- 8. Structural Improvements in Reduction Gears (Anfimov, M. I., Engineer)
 - Bevel reduction gears
 - Combination reduction gears
 - Pinion gears
 - Planetary reduction gears
 - Gear boxes
 - Globular reduction gears

- Ch. V. Technological Improvements in Machinery Manufacturing
 - 1. Effective Methods for Surface Hardening of Machine Parts (Spiridonov, A. A., Candidate of Technical Sciences)
 - Rolling
 - Centrifugal ball working of surfaces
 - Electrospark hardening
 - Combination method of hardening
 - 2. Present Technology of Finishing Operations (Poluyanov, V. T., Engineer)
 - Improvement of basic grinding indices
 - Precision grinding

Card 12/15

882

Increasing the Quality (Cont.)

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Superfine grinding | 521 |
| Lapping | 525 |
| Polishing | 533 |
| Superfinishing | 536 |
| 3. New Developments on Increasing the Quality of Lapping Processes
(Panasyov, P. P., Engineer) | 541 |
| Analysis of existing theories on the lapping process | 541 |
| Generalized hypothesis of lapping | 543 |
| Experimental verification of the generalized hypothesis | 544 |
| Recommendations for designating the degree of finish of the
surface work | 551 |
| 4. Improving the Technology of Protective Coatings (Rutenshteyn, L. G.,
Engineer; Il'ina, N. I., Engineer; and Megalinskiy, Ye. I., Engineer) | 552 |
| Primary anticorrosion cover | 551 |
| Interoperation protection of metal parts | 555 |
| Final finish of machines and preservation of parts | 559 |
| Increasing quality and reliability of lacquer coatings | 561 |
| Improving galvanizing technology | 565 |
| Chemical and thermal diffusion processes | 571 |
| 5. Progressive Welding Methods Used by Ural Plants (Galaktionov, A.T.,
Candidate of Technical Sciences) | 575 |

Card 13/15

882

Increasing the Quality (Cnnt.)

- | | |
|-------------------------------------------------------------------|-----|
| Electric slug welding | 587 |
| Mechanized welding stand | 588 |
| Automatic submerged melt welding | 589 |
| Electric alag welding of vertical seams | 590 |
| The use of seam welding | 591 |
| 6. Technological Improvements in the Manufacture of Turbine Units | 592 |
| (Bauman, N. Ya., Engineer) | 593 |
| Improvement in the design of vane apparatus | 594 |
| Efficiently designed blanks | 595 |
| Increasing the technical level of production | 596 |
| Reducing manual work | 597 |
| Large lots (series) in the production of turbines | 598 |
| Improving the design of parts and assemblies | 599 |
| 7. Reduction of the Production Cycle in Machining Large Parts | 600 |
| (Mitsengendler, I. S., Engineer) | 601 |
| Efficiency of machining operations on a platform | 602 |
| Machining excavator parts on a platform | |
| Mechanization of rolling mill bed plate machining operations | |

Card 14/15

382

Increasing the Quality (Cont.)

- | | |
|----------------------------------------------------------------------------------------------------|-----|
| 8. Improvement of the Metal Cutting Process (Shabashov, S. P.,
Candidate of Technical Sciences) | 603 |
| Reducing outlays for the production of tools | 604 |
| Expanding possibilities for the use of hard-alloyed tools | 606 |
| Increasing the dimensions of the shaved layer (chip) or work at
high feeds | 610 |
| Machining high alloy steels | 612 |
| 9. Reduction of Allowances in Castings (Osin, I. A., Engineer) | 614 |
| Bed plate for rolling mill stands | 615 |
| Terminal part of an excavator crank handle | 617 |
| Lightened sprocket wheel of an oil-drilling rig | 620 |
| | 623 |

Bibliography

AVAILABLE: Library of Congress

Card 15/15

JG/flc
12-15-58

SOV. 17 18 8 17844

Translation from Referativnyi zhurnal Metallurgiya 1956, No. 8, p. 44 (USSR)

AUTHOR: Goldshteyn, Ya. Ye.

TITLE: New Types of Steel in the Tractor Industry. No. 100 mark: staley v traktorostroyeni.

PERIODICAL: Mashinostroi. 1957, Nr 12, pp. 63-65.

ABSTRACT: In order to improve the quality of machine parts made of carbon steels and steel castings, as well as to provide substitutes for scarce alloyed steels, medium carbon steels containing 0.001-0.0025% B are being employed. Steels containing B exhibit improved deep hardening characteristics and are readily manufactured. Both medium carbon and low carbon steels containing approximately 1% of Mn are employed for carburization. Chemical composition and mechanical properties of a number of steels containing B or 1 Mn are given (15KBR, 18KhGT, 30KhGNT, etc.).

1. Steel--Production
2. Steel--Composition
3. Steel--Mechanical properties

M. Ch.

Card 1 of 1

AUTHOR: Gol'dshteyn, Ya.E., Iyashovich, L.S., Candidate of
Technical Sciences. 133-5-17/27

TITLE: Properties of steel 45 containing boron. (Svoystva stali
45 s borom)

PERIODICAL: "Stal'" (Steel), 1957, No.5, pp. 449-452 (U.S.S.R.)

ABSTRACT: The properties of steel 45P (developed by Tsvetmetz and Chelyabinsk Polytechnical Institute (Chelyabinskii Politehnicheskii Institut) and widely used in the tractor industry were compared with the properties of the same steel 45 without boron and steel 45F2 which has an increased manganese content (1.4-1.8%). According to ГОСТ 1050-52 the composition of steel 45 is as follows %: C 0.42-0.50, Si 0.17-0.37, Mn 0.5-0.8, Cr ≤ 0.3, Ni ≤ 0.3, S ≤ 0.045, P ≤ 0.040. Steel 45P has the same composition with 0.002 - 0.006% of boron. Steel was made in 5 ton electric and 60 ton open hearth furnaces. Ferro-boron or ferro-boral was introduced into the liquid metal when 1/3 - 1/2 of the ladle was filled or placed on the bottom of the ladle. Preliminarily the metal was deoxidised with aluminium and titanium so that their contents were 0.04-0.06% Al and 0.03 - 0.04% Ti which ensured the presence of the effective boron in the metal, which entered the composition of a- or γ - solution or formed (when in excess) boron-containing

Card 1/2

Properties of steel 45 containing boron. (Cont.) 133-5-17/27
phase on grain boundaries (Fig. 1). The hardenability of the specimens from the above steels is shown in Fig. 2. The dependence of mechanical properties of steel specimens on the temperature of tempering in Figs. 3 and 4; the dependence of cyclic toughness on thermal treatment in Fig. 5; mechanical properties of specimens from crankshafts before hardening with high frequency currents in the table; the distribution of hardness along the depth of hardened layer - Fig. 6; and the micro-structure of the boundary zone between hardened and base metal in Fig. 7. It is concluded that steel 45 with boron can be recommended for the production of crankshafts and other responsible parts submitted to hardening with high frequency currents. There are 7 figures, 1 table and 2 Slavic references.

AVAILABLE:

Card 2/2

3 N/126-4-2-27/74

AUTHORS: Pyatkov, L. L. and Gol'dshteyn, Ya. Ye.

TITLE: Influence of the Character of the Interaction of Aluminum, Nitrogen, Boron and Titanium on Certain Properties of Steel (Vliyaniye kharaktera vzaimodeystviya al'yuminiya, azota, bora i titana na nekotoryye svoystva stali)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1953, Vol 1, Nr 2, pp 347-355 (USSR)

ABSTRACT: The aim of the work described in this paper was to establish in the first approximation the character of the interaction in steel of boron, nitrogen and aluminum and the influence of their interactions on the properties of medium alloy steel. The influence was investigated of the sequence of introduction into the liquid steel of nitrogen and boron on the character of their interactions and thus on certain properties of boron-containing steels. The range of useful application of titanium in such steels is outlined. For the experiments two basic and one reference group of castings were made; the metal was melted in a 50 kg electric furnace with an acidic bottom. Prior to tapping the metal was deoxidised with aluminium. Each variant of the castings was produced by the

Card 1/4

S 7/100-6-2-23/74

Influence of the Character of the Interaction of Aluminum,
Nitrogen, Boron and Titanium on Certain Properties of Steel

fractional method. Enrichment of the steel with nitrogen was effected by introducing chemically pure sodium cyanide (in sealed iron capsules) into the liquid metal. In the first instance, the first group of castings was prepared in such a way that the boron was added to the nitrogen-enriched steel, whilst the castings of the second group were produced from metal into which aluminum (AlCN) was added after the final deoxidation of the steel and after the boron has been introduced. The boron was introduced in the form of a 4% ferroborel-100 "in", reference group of castings was cast in the same way as the second group. The chemical composition of the investigated steels and the sequence of introduction of nitrogen and boron are entered in Table 1, p 348. In Figs. 1 and 2 the influence on the hardenability of the "Steel 50" of boron and nitrogen additions is graphed; in Fig. 3 the influence of nitriding on the hardenability of the boron-containing steel 45R is graphed. In Figs. 4 and 5 micro-structure photographs are reproduced. Fig. 6 shows the curves of the Steel 45R after over-heating at 1275°C.

Card 2/4

NOV/126-6-2-23/34

Influence of the Character of the Interaction of Aluminium,
Nitrogen, Boron and Titanium on Certain Properties of Steel

and subsequent heat treatment. The impact strength values are entered in Table 2, p 349. On the basis of the obtained results the following conclusions are arrived at:

1. The combined influence of boron, aluminium and nitrogen on the properties of the steel depends to a considerable extent on the sequence of their introduction into the steel.
2. The established dependence of the influence of boron, aluminium and nitrogen on the sequence of their introduction into the steel is due to differing mechanisms of their interaction.
3. On introducing boron into liquid steel after deoxidation with aluminium, boron nitrides no longer form (or form in insignificant quantities), since the nitrogen which is dissolved in the steel is combined in stable aluminium nitrides; this ensures that the boron is maintained in the solid solution and explains its influence on the properties of the steel.
4. On introducing, or absorbing, nitrogen in boron-

Card 4/4

SVV/126-6-2-23/34

Influence of the Character of the Interaction of Aluminium,
Nitrogen, Boron and Titanium on Certain Properties of Steel

On heating steel a partial or a total removal of the boron from the solid solution takes place due to the appearance of formation of nitrides (carbonitrides).
The lower resistance to over-heating of boron-containing steel in presence of titanium can be explained for the first time by the fact that the titanium carbides and borides, the growth of the austenite grain, and for the range of high temperatures by the fact that it influences the boron distribution in the heating process.

There are 1 figure, 2 tables and 18 references, 9 of which are Soviet, 8 English, 1 German.

ASSOCIATION: V. I. Lenin Chelnykovo, Chelnykovo
political leadership Institute (Chelnykovo Director Works,
Chelnykovo Polytechnical Institute)

SUBMITTED: November 1958

Card 4/4 1. Steel--properties 2. Aluminum--Metallurgical effects
3. Boron--Metallurgical effects 4. Nitrogen--Metallurgical
effects 5. Titanium--Metallurgical effects

SOV 47-59-1-1265

Translation from Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 17; (USSR)

AUTHORS: Goldshteyn, Ya. Ye. Rossinskaya, T. A.

TITLE: Improving the Wear Resistance of Paddles of Shot-blasting Machines
(Povysheniye iznosostoykosti lopatok drobnostruykhnogo apparata)

PERIODICAL: Tr. Uralskogo politekhn. in-ta, 1958, Nr 68, pp 105-110

ABSTRACT: Comparative wear-resistance tests were carried out on paddles of shot-blasting machines: the paddles were made of 50G steel (which had been subjected to various heat-treatment procedures: Normalization; quenching; quenching with a subsequent low anneal; electric-spark hardening or cementation with subsequent quenching); G13 steel (quenching); quenching with subsequent cold hardening; quenching in conjunction with cold hardening and tempering); graphitized steel; cast iron containing Te; cast iron with 5.5% Cr and 1.2% Ni; as well as cast iron hardfaced with "Boker". Transl. Ed. Note: Presumably W carbide; and stellite. It was established that maximum wear resistance is exhibited by an extensive-carbide structure. An austenitic structure is characterized by low wear resistance. Electric-spark hardening proved to be ineffective.

Card 1/2

SOV 197-59-1-1265

Improving the Wear Resistance of Paddles of Shot-blasting Machines

Tempered Cr cast iron and a high-carbon steel which had been tempered to an RC value of 60 are recommended

T F

Card 2/2

SOV137-59-1-1199

Translation from: Referativnyy zhurnal. Metallurgiya 1959, No. 1, p. 164 (USSR)

AUTHORS: Gol'dshteyn, Ya. Ye., Balakhovskaya, T. B.

TITLE: Means of Improving the Quality of Piston Rings
(Puti povysheniya kachestva porshnevnykh kolets)

PERIODICAL: Tr. Ural'skogo politekhn. in-ta, 1958, No. 68, pp. 117-131

ABSTRACT: The investigations performed dealt with the following aspects of manufacture of piston rings (PR): The effect of the chemical composition of the cast iron on the microstructure of PR's; the effect of inoculants, inoculation procedures, and temperature schedules of smelting and pouring on the structure of the PR's; the effect of mold risers on the microstructure of cylinders. The mechanical and wear-resistance properties of PR's were examined, together with manufacturing processes of PR's made of high-strength cast iron. It was established that heat-resistance properties of PR's made of unalloyed high-strength cast iron (after a soaking period of 50 hrs at a temperature of 400°C) are identical to those of high-quality PR's cast individually from stock-type high-alloyed cast iron, despite the fact that the gap in the latter was somewhat

Card 1/2

SOV. 57-59-1-199

Means of Improving the Quality of Piston Rings

smaller prior to the beginning of the tests. The possibility of reducing the initial dimension of the joint in PR's made of high-strength cast iron and, consequently, the possibility of reducing their stressed state offers an additional means of increasing the heat-resistance properties of the PR under operating conditions. Alloying of the PR's enhances their mechanical properties.

A S

Card 2/2

18(3); 18(5); 18(7)

PHASE I BOOK EXPLOITATION

SOV/3409

Gol'dshteyn, Yakov Yefimovich

Mikrolegirovaniye. Teil 1. (Microalloying of Steel and Cast Iron),
Moscow, Mashgiz, 1959. 197 p. Errata slip inserted. 4,500 copies printed.

Reviewer: P. V. Sklyuyev, Candidate of Technical Sciences; Ed.: B. P. Zakharov;
Managing Ed. (Ural-Siberian Division, Mashgiz): A. V. Kaletina, Engineer;
Tech. Ed.: N. A. Dugina.

PURPOSE: This book is intended for technical personnel of machine-building and metallurgical plants, design offices, and research and educational institutions.

COVERAGE: The author defines microalloying as the addition of individual elements or their compounds, in amounts not to exceed 0.1% of the final composition, to the molten alloy base metal for the purpose of improving mechanical and other properties of the material. This addition may sometimes be carried out simultaneously with deoxidation. The term microalloying (Russian "mikrolegirovaniye") was coined by S. M. Vinarov. The book deals with basic problems in the theory of the microalloying of steel and cast iron. The effect of small additions of

Card 1/6

Microalloying of Steel and Cast Iron

SOV, '5409

Ch. II. Aluminum in Steel and Cast Iron	23
1. Aluminum as a deoxidizer	23
2. Aluminum and grain size	29
3. Aluminum in cast steel	37
Carbon steels	37
Alloy steels	41
Effect of joint deoxidation [by several addition alloys] on the mechanical properties of cast steel	43
4. Effect of aluminum on mechanical and artificial aging	46
5. Effect of aluminum on impact toughness of constructional steel	49
6. Effect of aluminum on temper brittleness of steel	53
7. Effect of aluminum on graphitization of steel and cast iron	56
Ch. III. Boron in Steel and Cast Iron	60
1. Physical and chemical properties of boron and its compounds	61
2. Effect of boron on transformation processes in steel	62
Iron-boron constitution diagram	62
Effect of boron on the kinetics of austenite decomposition	64
On the mechanism of the effect of boron on the hardenability of steel	64

Card 3/6

Microalloying of Steel and Cast Iron

SOV/3409

3. Boron-containing ferroalloys. Methods of application	66
4. Effect of boron added jointly with other elements on the properties of steel	73
Effect of the composition of the ferroalloy	73
Effect of titanium and zirconium on the properties of boron steel	78
Effect of boron on reversible temper brittleness	91
Effect of boron on the grain size of austenite	92
Effectiveness of microalloying steel with boron	95
5. Boron steels	99
Carbon steels containing boron	101
Case-hardening alloy steels containing boron	108
Medium-carbon alloy steels containing boron	115
Applications of boron steels in the USA	118
6. Boron in gray and malleable iron	121
Boron in gray iron	121
Boron in malleable iron	123
Combined effect of boron and bismuth	126

Card 4/6

Microalloying of Steel and Cast Iron

SOV/3409

Ch. IV. Titanium in Steel and Cast Iron	129
1. Titanium as a deoxidizer in steel	130
2. Effect of titanium on the properties of steel	133
Effect of titanium on mechanical properties	133
Effect of titanium on hardenability	139
Effect of titanium on grain size	140
Effect of titanium on temper brittleness	142
3. Types of titanium steel	144
4. Titanium in cast iron	147
Ch. V. Cerium in Steel and Cast Iron	152
1. Properties of cerium and its compounds	153
2. Cerium as a desulfurizer of steel	156
3. Effect of cerium on the properties of cast steel	162
Effect of cerium on mechanical properties	162
Effect of cerium on microstructure	167
Effect of cerium on cast steel contaminated by low-melting-point impurities	167

Card 5/6

Microalloying of Steel and Cast Iron

SOV/3409

4. Effect of cerium on the properties of forged steel	169
5. Effect of rare-earth metals on specific properties of steel	169
6. Cerium in cast iron	171
Ch. VI. Tellurium in Steel and Cast Iron	176
1. Properties of tellurium	176
2. Effect of tellurium on the properties of steel	177
3. Effect of tellurium on the properties of cast iron	180
Effect of tellurium on the tendency of cast iron to whiten	180
Tellurium in the production of malleable iron	185
Bibliography	188

AVAILABLE: Library of Congress

Card 6/6

VK/fal
5-10-60

3/137/C 030-009/020/029
AOM/R 01

Translation from Izvestiya Journal, Metallurgiya, 1959, No. 1, p. 240,
21601

AUTHORS. Gol'dashteyn, Ya.Ye., Zhushakina, O.D.

TITLE: The Effect of Cerium on the Structure and Properties of Cast and Forged Steel ✓
✓b

PERIODICAL: V sb. Redkizemel'n. elementy v stali i chugune, Moscow, Metallurgizdat, 1959, pp. 130-137

TEXT The authors investigated the effect of Ce in the structure and properties of cast carbon steel of 1.50 (1.50) (1.50) grade. Ce was introduced in the form of 94% Fe-Ce in amounts of 0.1-1.0% (according to calculations). It was found that Ce increased considerably the ductility and strength of cast steel and also promotes effectively deoxidation of steel. Optimum amounts of Ce addition (in %) were for carbon steel 0.2-0.3 and for steel alloyed with Ni, Cr and Si 0.10-0.15. In all cases the addition of Ce resulted in a reduction

Card 1/2

3/11/81 / 000703A/20/027
A. 16 / 0001

The Effect of Cerium on the Structure and Properties of Cast and Forged Steel.

content of Ce $\geq 0.1\%$ in the steel, i.e., the transition from the eutectic to the macroalloying of steel. There are 34 references.

V.P.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

17/11/70-1-17

AUTHOR: Gol'dshvyn, Ya. Ya., Candidate of Technical Sciences

TITLE: Tellurium in Steel (Tellurium in Steel)

PERIODICAL: Stal, 1959, No 2, pp 156-159 (USSR)

ABSTRACT: The influence of small additions of tellurium on the structure and properties of structural steel was investigated. The experimental heats were melted out in a 50 kg induction furnace and in a 1-ton electric furnace (in both cases with acid lining). Various amounts of pure tellurium were introduced into steel casting ladles into which the deoxidized steel was transferred from the tapping ladle. For the investigation 1 kg wedge-like specimens (cast in dry coles) and 10 kg ingots were used. An investigation of the microstructure and x-ray prints made from cast wedge specimens and longitudinal sections of the ingots did not show any noticeable influence of tellurium on the formation of microstructure in steel in respect of the size of primary crystals or the appearance of dendritic structure. Joining of experimental heats containing from 0.01% to 0.04% of tellurium was normal without the formation of cracks or other defects provided the manganese content was not lower than 0.3%. With a

Card 1/4

10/10/68-19/2

Tellurium in Steel

samples of steel of 0.1% tellurium content containing tellurium in steel. The determination of steel at temperatures also used that tellurium has a small influence on their position increasing A₁ to 100% at a content of tellurium of 0.1%. The influence of tellurium on the mechanical properties of steel from one of the experimental points of 0.05% Si, 0.1% Mn, 0.05% C, 0.05% P, 0.05% deoxidized with 0.1% Al, 0.05% Al and containing 0.05, 0.2 and 1% of tellurium and 0.05 and 0.3% of tellurium and cerium respectively is shown in table 1 and figure 1. It was found that with tellurium content of 0.05% and above the yield point of steel decreases and with the tellurium content above 0.1% plasticity and impact strength of steel deteriorates. A simultaneous introduction of cerium cancels the negative influence of tellurium on the mechanical properties of steel and in the case of impact strength, even some improvement is obtained. The influence of tellurium on the grain size of steel was investigated in the temperature range 200-1000°C. It was found that the grain size of steel increases

Card 2/4

07/15/88-1-13/88

Tellurium in Steel

decreases the size of secondary grains increasing their stability to growth on heating up to 1150°C inclusive (fig.3 and table 2) and sharply decreases the hardenability of steel (fig.4). The influence of tellurium on the distribution of carbon along the depth of the carburised layer is shown in fig.5. Microalloying with tellurium decreases the intensity of carburisation of steel during the cementation process which permits avoiding over-saturation of the surface layers with carbon and related to it, excessive brittleness. On the basis of the results obtained microalloying with tellurium is recommended for a wide range of structural steels in all cases when it is necessary: a) to obtain a fine grain structure already in rolled, forged or stamped products; b) to decrease the sensitivity of steel to overheating and c) to increase the hardenability of the whole parts or their working surfaces with simultaneous decrease of hardenability

Card 5/4

NOV/1977-5/19/85

Tellurium in Steel

and tendency to the formation of hardening cracks.
There are 5 figures and 2 tables

ASSOCIATION: Chelyabinskii Frakorny Zavod (Chelyabinsk Machine
Works)

Card 4/4